BT-Q1000XT

Travel Recorder™ XT

eXtreme 66-CH Performance Bluetooth A-GPS Travel Recorder

Superior Track Logger and Navigation DUAL-IN-ONE



Table of Contents

1. Overview

Thank you for purchasing Qstarz 66-CH series BT-Q1000XT - Bluetooth® A-GPS eXtreme Travel Recorder™, built-in second generation GPS chipset MTK with 66 channels tracking for your navigation and travel log, the new feature of BT-Q1000XT supports Smart Log function and vibration sensor to automatically start/ stop logging with a preset time schedule and smartly manage power saving and waypoint saving. Besides, the software utility supports multi-condition setting to customize personal travel record. All tracking records can be downloaded, saved, and also can display directly on Google Earth with photos by integrated Geotagging function.

2. Product Notice

- Please take out the battery and store it in dry/cool places when not use for a long period.
- If BT-Q1000XT isn't used in temperature between -10℃ ~ 60℃, its battery charging capability will decrease. Leave the BT-Q1000XT far from heat or high temperature environment. And also, do not expose your BT-Q1000XT in temperature higher than 145℉/60℃ to prevent the battery inside BT-Q1000XT from overheating, exploding or burning itself. The Lithium battery inside the BT-Q1000XT should be recycled.
- It is recommended to turn BT-Q1000XT off in the hospital. Wireless GPS receiver may interfere with

the medical equipments which use radio frequency.

- The manufacturer assumes no responsibility for any damages and loss resulting from the use of this manual, or from deletion of data as a result of malfunction, dead battery, or from misuse of the product in any way.
- Please clean the unit with a dry and clean soft close. Do not use harsh cleaning solvents, chemicals, or strong detergents.
- Do not attempt to open BT-Q1000XT by yourself. Unauthorized hacking may damage the unit, and void your warranty.

3. Features

- Adopt MTK II latest chipset with high sensitivity -165dBm and 66-Channel tracking
- Ultra lower power consumption up to 42hrs operation
- Less than 15-Sec. AGPS fix support: download almanac data to realize faster TTFF and positioning under warm start
- Stand-Alone travel recorder to log up to 400,000 records
- POI button design to record your point of interest immediately
- 3-level Switch for easily switch Travel Recorder to LOG or NAV (Navigation + Log) mode
- Raise beeper function to notice some status of device
- Integrate Vibration sensor to smartly manage power saving and waypoint saving
- Support Time schedule function to automatically

start logging and stop logging by setting multiple time interval in specific or periodic date per requirement

- Support Speed Alarm function to prompt over speed status by beeping sound
- Update Rate 1~5Hz changeable by utility provided (receiving 5Hz update rate only, logging only 1Hz maximum)
- G-Mouse + Bluetooth in one: wired and wireless GPS receiver
- Fast Position Fix ,Cold start 35s, Warm start 33s,Hot start 1s
- Personal/Portable Navigation (PDA, Smartphone, PC, etc.)
- DGPS(WAAS+EGNOS+MSAS) support

*The waypoints would be decreased when the more options of Log Format are selected

4. Product Specification

General	
GPS Chip	MTK II GPS Module
Frequency	L1, 1575.42MHz
C/A Code	1.023MHz chip rate
Channels	66-CH Performance
Antenna (Internal)	Built-in patch antenna with LNA
Sensitivity	Tracking -165dBm
Datum	WGS84
Performance Characteristic	
Position	Without aid: 3.0m 2D-RMS
Accuracy	<3m CEP(50%) without SA (horizontal) DGPS (WAAS, ENGOS, MSAS): 2.5m
Velocity	Without aid: 0.1m/s, DGPS (WAAS, ENGOS, MSAS): 0.05m/s
Time	50 ns RMS

Cold/Warm/Hot Start	35/33/1 sec, average
Dynamic Condition	
Altitude	<18,000m
Velocity	<515m/sec
Acceleration	<4g
Protocol	
GPS Output Data	NMEA 0183 (V3.01) -GGA, GSA, GSV, RMC (Default) VTG, GLL(Optional)
Baud Rate	115,200 bps
Power	
Built-in rechargeable Li-ion battery, Up to 42 hrs after fully charged	
Bluetooth	
Standard	Fully compliant with *Bluetooth* V1.2
Bluetooth Profile	Serial Port Profiles (SPP), Up to 10 meters
Others	
Size / Weight	72.2 (L) X 46.5 (W) X 20 (H) mm/ 64.7g (battery included)
Operating Temperature	- 10 ℃ to + 60 ℃
Storage Temperature	- 20 ℃ to + 60 ℃
Charging	0 ℃ to + 45 ℃

5. Hardware Introduction

5-1. Appearance



1. Power jack (mini USB type)
2. Mode switch (OFF/NAV/LOG)
3. Battery status LED (Red/Green)
4. *Bluetooth* status LED (Blue)
5. GPS status LED (Orange)
6. Internal antenna

7. **POI button**

5-2. Hardware Function

Hardware Function	Description
Power Jack	Take the power cable and connect it to the power jack (mini USB type) for charging only
Mode Switch (OFF)	Power off BT-Q1000XT
Mode Switch (NAV)	When switch to NAV mode, BT-Q1000XT can be used to navigate and handheld devices (PDA / Smartphone / Laptop…), and the Log function will be enabled if the present time is within the preset time schedule.
Mode Switch (LOG)	When switch to LOG mode, BT-Q1000XT can be used to record your travel path, and navigation function is still enabled.
POI Button	Push the POI button to log favorite Point of Interest

Mode Switch (OFF) Mode Switch (NAV) Mode Switch (LOG)







5-3. Battery installation

1. Press the PUSH button on the bottom side of the unit



2. Pull out the battery cover. Insert battery in the unit



3. Put battery cover on to the cabinet



4. Then push down and force it forward to fit firmly



- Charging your battery



For the first time using the BT-Q1000XT, please charge battery until it is fully charged. Take the power cable and connect it to the power jack (mini USB type) and recharge through USB cable, travel charger, or car cigarette adaptor. This will begin to charge the battery. Charging time is about 3 hours typically.

- When the Power LED is Red, battery power is low status. Please recharge.

- When the Power LED is Green, the battery is under charging mode.

- When the Power LED is off, the battery is fully charged.

5-4. LED Indicators

LED Status		Flash	ON	OFF

Power (Red/Green)			Recharging (Green) Low Power (Red)	Fully charged
Bluetooth (Blue)		Flash per 2 sec.: *Bluetooth* connected and transmitting Mode Flash per 5 sec.: Power saving mode	Not connected / Pairing	GPS not powered / Log Mode is on
GPS (Orange)		GPS position is fixed, Navigation	Detecting Satellite, GPS position not fix	GPS not powered
Log (Red)		Log Mode is on Flash per 2 sec: Low memory (20%) Flash 3 times: POI(Point of Interest) is recorded	Memory is full	Log Mode is off

5-5. Function of Vibration Sensor

Vibration Sensor: Vibration Sensor is functioned for power saving and waypoint saving. It will detect the physical movement of the device. When it detects the device not moving more than 10 minutes, Q1000XT will enter sleep mode so that the Blue LED will turn to flash every 5 seconds. Under sleep mode the log will be disabled. When the device is on sleep mode, SHAKE the device to wake it up and the blue LED will turn to flash every 2 seconds and GPS Orange LED will be also on.

*** Vibration Sensor function is turned off as default, and can be turned on by Software -> Config GPS.**

6. Setup BT-Q1000XT

6-1. Install the driver and software utility for BT-Q1000XT

System Requirement (Only compatible with Microsoft Windows XP / Vista/Win7)

Minimum System Requirement	Recommended System Requirement
- Windows XP or Vista - Pentium 3, 500Mhz - 128M RAM - 128MB disk space - Network speed: 128Kbits/sec - 3D-capable video card with 16Mbytes of VRAM - 800x600, "16-bit High Color" screen	- Windows XP - Pentium 4 2.4GHz+ or AMD 2450xp+ - 512M RAM - 2 GB of free disk space - Network speed: 768 Kbits/sec or better (DSL/Cable) - 3D-capable video card with 32 MB of VRAM or greater - 1280x1024, "32-bit True Color" screen

1. Please insert the Software CD to your computer. The autorun window will appear and please select Q1000XT. Please press "Install QTravel" to install the main program. If the auto run Windows did not appear, please browse the CD and find the folder "Utility\QTravel\". Double click "QTravelV1.2_installer.exe"

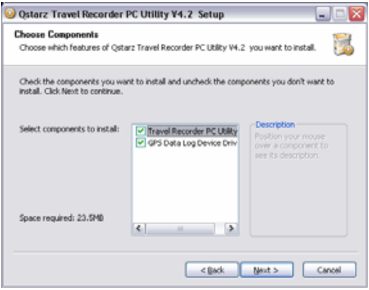
to install the software utility package. This software package
contains USB driver, QTravel™



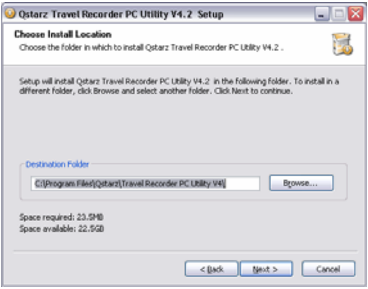
2. System would pop up the utility installation dialog. Please click <Next> for the next step.



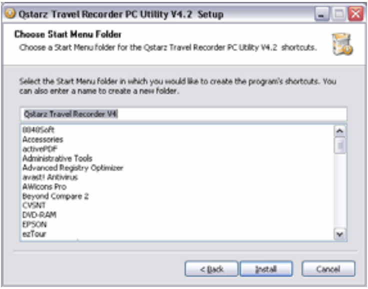
3. Please select "QTravel" and "GPS Data Log Device Driver", and then click <Next> to the next step. If you already installed USB driver, please unselect "GPS Data Log Device Driver."



4. Click <Next> if you want to install the program in default target folder or you can click <Explore> to change the install folder.

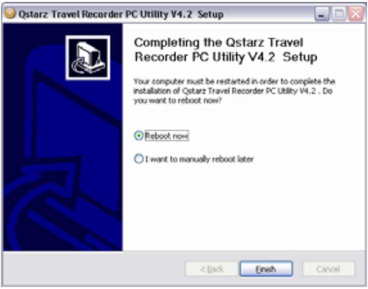


5. Give a folder's name for quick links in start menu and click <Install> to install the program.



6. When the utility installation is completed, please click <Finish> to reboot. Or you can also reboot later by

selecting "No, I want to reboot later by myself."



6-2. Install Google Earth

BT-Q1000XT supports showing your travel path directly on Google Earth. Please go to http://earth.google.com for the free download of Google Earth, and then install it to your computer. For the operation procedure of Google Earth, please refer to http://earth.google.com/support/

7. Start to use

7-1. Fully charge the battery when using at the first time

A fully charged battery can last up to 42 hours continuously operation.

7-2. Getting satellite fix with Q1000XT

When switch on your Q1000XT (NAV or LOG mode), the GPS will start to acquire the satellites position,once the GPS position is fixed, GPS LED will be flashing , then Q1000XT can be used to navigate as bluetooth receiver with handled devices or record the travel path.

7-3. Connect BT-Q1000XT with your PC

1. Power on BT-Q1000XT.
2. Please connect BT-Q1000XT with your PC by mini USB cable.

7-4. Start the software utility

NOTE 1: Before starting the software utility, please make sure that the USB driver and the software utility has been installed properly.
NOTE 2: QTravel only supports BT-Q1000XT. Any intention to use QTravel connecting GPS units other than BT-Q1000XT would result in software disconnection automatically.

Users have to input product key at the first time of use. The product key is located on the envelope of the driver CD.




Important Notice: Do not lose your Product Key. Keep the

packaging, or write the number down and keep it in a safe place.

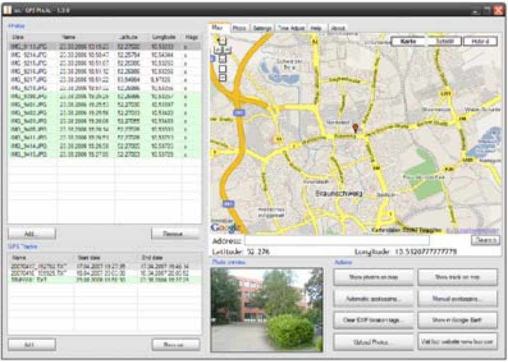
For more software instructions, please refer to the software user's manual in driver CD or at Help -> Users Manual after software installation.

For A-GPS functionality, please also refer to User's Manual or Quick Guide.

8. Useful reference Applications on the internet

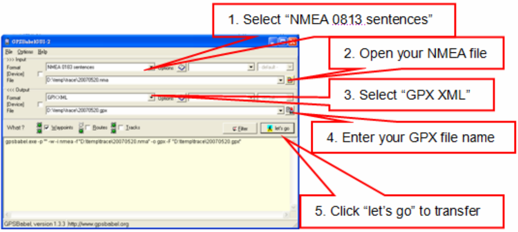
8-1. locr GPS Photo

BT-Q1000XT is the member of locr GPS Photo certified product. This utility can integrate travel log and digital photos by date/time to show your photos on the map directly. After the integration, the current GPS coordinates also can be imported to your digital photos for the further application. Please find the installation file for Windows XP/Vista or Symbian system in Qstarz GPS CD. Go to http://www.locr.com for the further information.



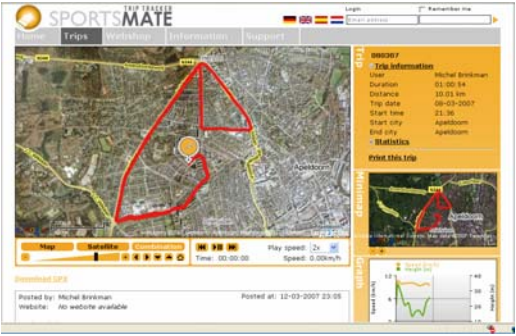
8-2. GPSBabel

This utility can transfer your NMEA file to GPX file or other format. Please go to http://www.gpsbabel.org for free download.



8-3. SPORTSMATE

This web site can share your travel log with your friends. Before sharing your trip, please apply a new account first. Please go to http://www.ttsm.com for the further information.



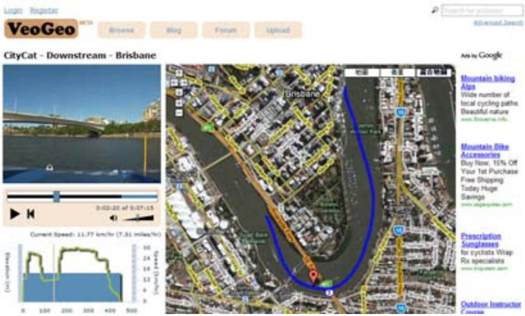
8-4. JetPhoto Studio

This utility can integrate travel log and digital photos by date/time to show your photos on the map directly. After the integration, the current GPS coordinates also can be imported to your digital photos for the further application. Please go to http://www.jetphotosoft.com for free download.



8-5. VeoGeo

This website allows you to combine travel log and video by date/time to show your video on the map directly. Please go to www.veogeo.com for further information and register for a free new account.

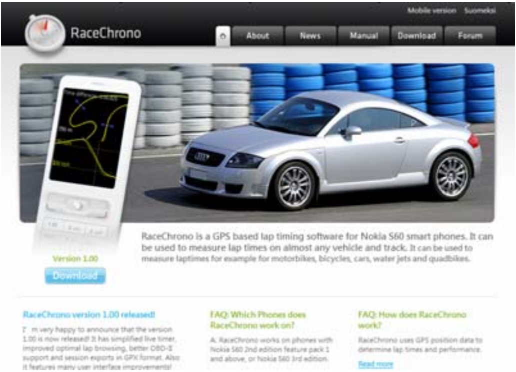


8-6. RaceChrono

RaceChrono is a GPS based lap timing software for Nokia S60 smart phones. It can be used to measure lap times on almost any vehicle and track. It can be used to measure lap times for example for motorbikes, bicycles, cars, water jets and quadbikes. Most important of all, it supports 5Hz update rate.

Please find the installation file in Qstarz GPS CD or go to

http://www.racechrono.com for the further information.



9. Trouble Shooting

Question	Answer
Can BT-Q1000XT be used to navigate when travel log is on?	Yes, you can use BT-Q1000XT to navigate when travel log is on simultaneously.
I lost my travel charger and battery. Where can I find replacements	DC Input range of BT-Q1000XT is 4.5~5.5V. You can use a travel charger which support DC output range from 4.5~5.5V. You can also use a common mini USB cable to charge your unit via

for both?	**the laptop. Besides, The battery for BT-Q1000XT is compatible with Nokia phone series. The battery model is BL-5C.**
Why does BT-Q1000XT only can log 150,000~160,000 waypoints?	**We active more options previously to provide detailed GPS information for user's reference and download. So it would use more memory. If you reduce the options (under Log Format) for your log, it would save the memory and increase more waypoints.**
My BT-Q1000XT could not use 42 hours?	**BT-Q1000XT can use 42 hours under the optimum environment. GPS would spend more power consumption when keep trying a position fix, seeking Bluetooth connection, beeper enabled, and pressing POI button frequently or under an unstable environment (bad weather, forest, buildings). Those would take GPS more calculation and power consumption. So it would spend more power consumption. After the battery Red LED light is blanking, it still can be used for your navigation without any problem.**
My BT-Q1000XT doesn't log automatically when the time is within the time schedule?	**1. Please make sure BT-Q1000XT is switch to Nav mode and connected to the satellite.** **2. Check in Software>Config Device, and select the correct local time zone, and make sure the schedule checkbox is**

	checked.

10. Appendix

Navigate as a *Bluetooth* GPS Receiver with Handheld devices

10-1. Activate the *Bluetooth* function in your PDA/Smart phone or PC

Before activating the *Bluetooth* function in your PDA/PC, please switch BT-Q1000XT to <NAV> or <LOG> position for paring and check if your device is equipped with *Bluetooth* function. If not, you may need to acquire an optional CF/SD *Bluetooth* card or *Bluetooth* dongle.

NOTE 1:
BT-Q1000XT would be identified as "Qstarz GPS" under Bluetooth Manager. In further use, you just need to click it to connect to this GPS Travel Recorder.

NOTE 2:
The pairing procedure is required to execute in the first time only. And the pass code is "0000" if required.

NOTE 3:
Select correct com port and baud rate: 115,200 under your navigation software (Most of navigation software can auto-detect Bluetooth Com port, so you do not need to setup manually).

10-2. Create *Bluetooth* Setting (Windows Mobile 5/6 for Pocket PC)

1. Switch BT-Q1000XT on.

2. From the Start menu, click Settings. On the Connections tab, click the *Bluetooth* icon

3. On the Devices tab, click Add New Device... The settings application will search for your device. When it is found, click Next.





4. Enter the passcode "0000" and

click Next.

5. On the Partnership Settings screen, select Serial Port and click Next



6. Select the Mode tab and check the Turn on *Bluetooth* checkbox if it is not already



checked.

7. Select the COM Ports tab and click New Outgoing Port



8. Select "Qstarz Q1000XT" from the Add a Device list and click Next



9. Uncheck Secure Connection. From the Port drop-down list, select a port number. Remember the port you choose. You will need it when you configure the GPS Intermediate Driver.

10. Click Finish and exit the *Bluetooth* Control Panel item.



10-3. Configure the GPS Intermediate Driver

The GPS Intermediate Driver is a software layer between a Windows Mobile application and the GPS hardware drivers. This allows applications to work with a variety of GPS hardware. The GPS Intermediate Driver uses the registry to determine what COM port should be used to communicate with the GPS hardware. The recommended way to configure the registry to work with your GPS device is the GPS Settings icon



1. From the Start menu, click Settings. On the System tab, click the External GPS icon. On some devices, this item has a different name.

2. On the Programs tab, select any available COM port from the GPS Program Port drop-down list. The GPS data sent through the GPS Intermediate Driver is streamed to applications through this port. This should not be the same port that your GPS receiver is configured to use. If your application can't receive GPS data stream, leave GPS Program Port for empty. Applications will use GPS Hardware Port as communication port.

3. On the Hardware tab, select the COM port BT-Q1000XT is configured to use from the GPS Hardware Port drop-down list



4. On the Access tab, make sure that the Manage GPS Automatically checkbox is checked



10-4. Start your navigation software

Activate your navigation software and make sure to select the correct "COM Port".

NOTE 1:
In the map software such as TomTom, you might need to change preference and set "Other Bluetooth GPS Device" according to PDA/phone model. In some case please consult map software company to vary the setting if you have issue on positioning.

NOTE 2:
There might be specific setting requirement per navigation software. Such as Tomtom, please delete other GPS settings under Tomtom software, and keep one only.

10-5. Switch to eXtreme 5Hz sport mode by QstarzGpsView software application

eXtreme 5Hz sport mode allows your GPS to get the same or even higher positioning and accuracy ability during eXtreme sports.

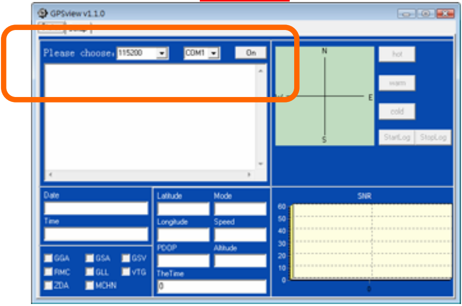
NOTE: The default setting for Q1000XT is 1Hz. If you are no longer to use eXtreme 5Hz sport mode, either to switch it from software or to hard reset the GPS by unplugging the battery over 5 mins.

1. Connect BT-Q1000XT with your PC by mini-USB cable.

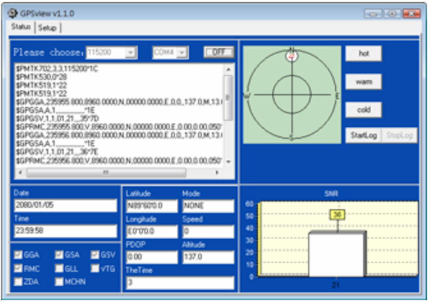
2. Switch BT-Q1000XT on.

3. Execute QstarzGpsView.exe from Driver CD "Tools\QstarzGpsView.exe".

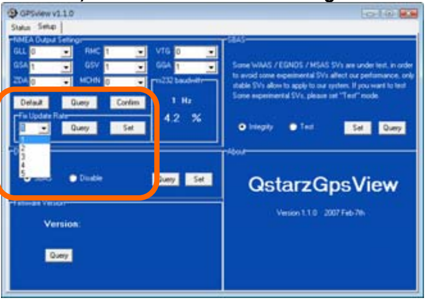
4. Select COM port (refer to software manual, item 5-1 II) and set the baud rate to *115200*.



5. Click On button to establish the communication between BT-Q1000XT and your PC. If the connection is successful, the NMEA stream will keep showing.



6. Click Setup tab, and you can change to eXtreme Sport mode under Fix Update Rate. The higher number means the device can bear extremer environment. After select an update rate, click Set to save the setting.



10-6. Safety Notices

R&TTE / CE Notice

This device is confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low-voltage Directive (73/23/EEC) and the Amendment Directive(93/68/EEC), the procedures given in European Council Directive 99/5/EC and 89/336/EEC.

The equipment was passed. The test was performed according to the following European standards:
EN 300 328-2 V.1.2.1 (2001-08)

EN 301 489-1 V.1.4.1 (2002-04) / EN 301 489-17 V.1.2.1 (2002-04)
EN 50451: 2002
EN 60950: 2000

FCC Notice

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. **This device may not cause harmful interference.**
2. **This device must accept any interference received, including interference that may cause undesired operation.**